

WATANABE, Serial No. 09/933,899

Docket No. 500.40538X00

LISTING OF CLAIMS

This listing of claims, including claims 1-6 as amended, and newly added claims 7-13, will replace all prior versions, and listings, of all claims as pending in the application as follows:

Claim 1 (Currently Amended):

A method of assembling a disc-like recording medium disc in a disc apparatus, comprising:

~~a first step of mounting a disc-like recording medium to~~ disc onto a hub of a spindle motor in a disc apparatus in a state capable of moving the disc-like recording medium being moved with respect to ~~a~~ the hub of ~~a~~ the spindle motor in a direction of a disc radius;

~~a second step of pressing an outer diameter of the disc in a direction of a center axis of the hub by a first flat member so as to bring an inner diameter of the disc into contact with an outer diameter of a rotary axis of the hub;~~

~~a third step of pressing back the outer diameter of the disc contact with the first flat member and the outer diameter of the disc at an opposite position to the center of the disc in an inverse direction to a pressing direction of the first flat member to a half of an amount of tolerance between the inner diameter of the disc and the outer diameter of the hub, by a second flat member placed~~ arranged in parallel to ~~said~~ the first flat member and in an opposite side to the center axis of the hub; and

~~a fourth step of fixing the disc to the spindle motor hub~~ of the spindle motor by a clamp member.

WATANABE, Serial No. 09/933,899

Docket No. 500.40538X00

Claim 2 (Currently Amended):

A method of assembling a disc-

~~like recording medium~~ disc in a disc apparatus, comprising:

~~a first step of mounting a disc-like recording medium to~~ disc onto a hub of a spindle motor in a disc apparatus in a state capable of moving the disc-like recording medium being moved with respect to ~~a~~ the hub of ~~a~~ the spindle motor in a direction of a disc radius;

~~a second step of pressing an outer diameter of the disc in a direction of a center axis of the hub by a first flat member so as to bring an inner diameter of the disc into contact with an outer diameter of a rotary axis of the hub;~~

~~a third step of pressing back the outer diameter of the disc contact with the first flat member and the outer diameter of the disc at an opposite position to the center of the disc in an inverse direction to a pressing direction of the first flat member by a second flat member placed~~ arranged in parallel to said ~~the~~ first flat member in an opposite side to the center axis of the hub until the outer diameter of the hub and the inner diameter of the disc are in contact with each other, and measuring a difference between the outer diameter of the hub and the inner diameter of the disc;

~~a fourth step of pressing back a half of the difference between said~~ the outer diameter of the hub and the inner diameter of the disc by the first flat member; and

~~a fifth step of fixing the disc to the spindle motor hub~~ of the spindle motor by a clamp member.

Claim 3 (Currently Amended):

A method of assembling a disc-like

~~recording medium as claimed in claim 1, wherein a pressurizing means for pressing the disc toward the center axis of the hub is provided in a portion to which said~~ the first flat

WATANABE, Serial No. 09/933,899

Docket No. 500.40538X00

member and said second flat member are is mounted.

Claim 4 (Currently Amended): A method of assembling a disc-like recording medium as claimed in claim 2, wherein a pressurizing means for pressing the disc toward the center axis of the hub is provided in a portion to which ~~said the~~ first flat member and said second flat member are is mounted.

Claim 5 (Currently Amended): A method of assembling a disc-like recording medium disc in a disc apparatus comprising:

a first step of fixing a magnetic disc apparatus base on which a spindle motor is mounted;

a second step of mounting a disc-like recording medium to disc onto a hub of a spindle motor in a disc apparatus in a state capable of moving the disc-like recording medium being moved with respect to a the hub of a the spindle motor in a direction of a disc radius;

a third step of pressing an outer diameter of the disc in a direction of a center axis of the hub by a first flat member so as to bring an inner diameter of the disc into contact with an outer diameter of a rotary axis of the hub;

a fourth step of pressing back the outer diameter of the disc contact with the first flat member and the outer diameter of the disc at an opposite position to the center of the disc in an ^{opposite} inverse direction to a pressing direction of the first flat member to a half of an amount of tolerance between the inner diameter of the disc and the outer diameter of the hub, by a second flat member placed arranged in parallel to ~~said the~~ first flat member and in an opposite side to the center axis of the hub; and

WATANABE, Serial No. 09/933,899

Docket No. 500.40538X00

~~a fifth step of fixing the disc to the spindle motor hub by a clamp member.~~

Claim 6 (Currently Amended): A method of assembling a ~~disc-like~~
~~recording medium~~ disc in a disc apparatus comprising:

~~a first step of fixing a magnetic disc apparatus base on which a spindle motor is~~
mounted;

~~a second step of mounting a disc-like recording medium to~~ disc onto a hub of a
spindle motor in a disc apparatus in a state capable of moving the disc-like recording
medium being moved with respect to a ~~the~~ hub of a ~~the~~ spindle motor in a direction of a
disc radius;

~~a third step of pressing an outer diameter of the disc in a direction of a center~~
axis of the hub by a first flat member so as to bring an inner diameter of the disc into
contact with an outer diameter of a rotary axis of the hub;

~~a fourth step of pressing back the outer diameter of the disc contact with the first~~
flat member and the outer diameter of the disc at an opposite position to the center of
the disc in an inverse direction to a pressing direction of the first flat member by a
second flat member ~~placed~~ arranged in parallel to ~~said the~~ first flat member in an
opposite side to the center axis of the hub until the outer diameter of the hub and the
inner diameter of the disc are in contact with each other, and measuring a difference
between the outer diameter of the hub and the inner diameter of the disc corresponding
to an amount of pressing back;

~~a fifth step of pressing back a half of the difference between said the~~ outer
diameter of the hub and the inner diameter of the disc by the first flat member; and

~~a sixth step of fixing the disc to the spindle motor hub~~ of the spindle motor by a

WATANABE, Serial No. 09/933,899

Docket No. 500.40538X00

clamp member.

Claim 7 (Newly Added): A method as claim in claim 3, wherein said pressurizing means includes a spring arranged to press the first flat member against the disc toward the center axis of the hub.

Claim 8 (Newly Added): A method as claim in claim 4, wherein said pressurizing means includes a spring arranged to press the first flat member against the disc toward the center axis of the hub.

Claim 9 (Newly Added): A method as claim in claim 3, wherein a displacement gauge is provided to monitor the movement of the first flat member as the first flat member is pressed against the disc toward the center axis of the hub.

Claim 10 (Newly Added): A method as claim in claim 4, wherein a displacement gauge is provided to monitor the movement of the first flat member as the first flat member is pressed against the disc toward the center axis of the hub.

Claim 11 (Newly Added): A disc apparatus, comprising:
a base on which a spindle motor hub is mounted;
a disc mounted onto the hub; and
a rotation balance mechanism arranged to center the disc relative to a center of the hub after the disc is mounted onto the hub so that the disc can be fixed to the hub, said rotation balance mechanism comprising:

WATANABE, Serial No. 09/933,899

Docket No. 500.40538X00

first and second flat members arranged in parallel in opposite sides of the disc relative to a center axis of the hub; and

control means arranged to control movement of the first and second flat members to center the disc relative to a center of the hub by: (1) pressing the first flat member on one side of the disc against an outer diameter of the disc in a first direction relative to the center axis of the hub until an inner diameter of the disc is in contact with an outer diameter of the hub; (2) pressing the second flat member on the other side of the disc against the outer diameter of the disc in a second direction opposite to said first direction relative to the center axis of the hub until the inner diameter of the disc is in contact with the outer diameter of the hub; (3) measuring a distance difference between the inner diameter of the disc and the outer diameter of the hub; and (4) pressing the first flat member against the outer diameter of the disc again in said first direction until the inner diameter of the disc reaches $\frac{1}{2}$ the distance difference between the inner diameter of the disc and the outer diameter of the hub.

Claim 12 (Newly Added): A disc apparatus as claimed in claim 11, wherein said rotation balance mechanism further comprises a displacement gauge arranged to monitor the movement of the first flat member as the first flat member is pressed against the disc toward the center axis of the hub.

Claim 13 (Newly Added): A disc apparatus as claimed in claim 11, wherein said control means comprises a spring arranged to press the first flat member against the disc toward the center axis of the hub.

Concluded